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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,243	01/16/2002	Titus Lo	12177/13802	5223

23838 7590 02/03/2005

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EXAMINER

NGUYEN, SIMON

ART UNIT PAPER NUMBER

2685

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,243

Applicant(s)

LO ET AL.

Examiner

SIMON D NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. (5,907,816) in view of Antonio et al. (5,621,752).

Regarding claim 9, Newman discloses an array antenna for a base station (figs.7-8), comprising: capturing (receiving) wireless signals on a plurality of antennas (column 4 lines 42-62); forming a plurality of beams from outputs of the antennas (column 10 line 46); selecting beams (column 5 lines 59-67, column 6 lines 57-58); outputting, from the receivers, processed signals corresponding to the beams; and extracting a message (information) from the processed signal (column 7 lines 4-24). However, Newman does not specifically disclose selecting a subset of beams.

Antonio discloses a base station having a beam former for forming a plurality of beams from outputs of the antennas and selecting a subset of the beams for processing by a plurality of receivers, wherein the subset includes the strongest beam (column 7 lines 8-14, 51-56). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Newman, modified by Antonio in order to improve signal performance for each transceiver in a base station.

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Regarding claims 10-13, Newman further discloses the steps of assigning weights to the processed signals (column 13 lines 35-39); demodulating signals (column 7 lines 18-19); the strongest beam is processed by a primary receiver (#18) (column 5 lines 59-67, fig.1) and other beams of the subset are processed by auxiliary receiver (#18a of fig.1)(column 6 lines 53-55).

Regarding claim 14, this claim is rejected for the same reason as set forth in claims 9, wherein Antonio discloses the switch matrix (#228) selecting a subset of the beam signals to a set of receivers. Since the switch matrix of Antonio used for selecting a subset of beams to assign for a plurality of receivers, respectively, the switch matrix of Antonio is obviously an exclusion logic switch.

Regarding claim 17, this claim is rejected for the same reason as set forth in claim 14.

Regarding claims 15-16, Newman further discloses a digital processor for selecting, weighting, and demodulating signal (column 7 lines 25-27).

Regarding claims 18-19, these claims are rejected for the same reason as set forth in claims 12-13.

Regarding claim 20-22, these claims are rejected for the same reason as set forth in claim 15.

Response to Arguments

3. Applicant's arguments, see Remarks, filed 10/12/04, with respect to the rejection(s) of claim(s) 9, 14, and 17 under Newman et al. (5,907,816) have been fully

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considered and are persuasive. Therefore, the final rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Antonio et al. (5,621,752).

Antonio, discloses a base station selecting a subset of the beams for processing by a plurality of receivers wherein the subset of the beams includes the strongest beams (column 7 lines 8-14, 51-55). Since the switch matrix of Antonio used for selecting a subset of beams to assign for a plurality of receivers, respectively, the switch matrix of Antonio is obviously an exclusion logic switch.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Feuerstein et al. (6,055,230) discloses a base station having a plurality of antennas to receive signal beams wherein a digital switch selects the best six of the beams in twelve logical signals (column 6 lines 27-38).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (703) 308-1116. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (703) 305-4385.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

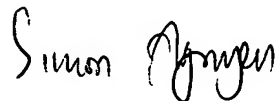
Or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Hand-delivered response should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Simon Nguyen

January 31, 2005

A handwritten signature in black ink that reads "Simon Nguyen". The signature is written in a cursive, flowing style.